

### Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims

Claims 1-8 (canceled)

9. (Currently amended) A sol-gel process for producing an inorganic monolithic aerogels nanostructured metal-oxide aerogel or an inorganic monolithic xerogels nanostructured metal-oxide xerogel, containing ~~nanostructured metal-oxide materials~~ comprising:

dissolving a metal salt in a solvent at least containing water to produce a solution;<sub>i</sub>

inducing sol formation by ~~one of the group consisting of natural formation, changes in pH, change in ionic strength, and change in temperature;~~<sub>i</sub>

adding a proton scavenger to induce and control gelation for producing a an inorganic gel;<sub>i</sub>

providing sufficient time for gel formation of said inorganic gel;<sub>i</sub> and

drying ~~the~~ said inorganic gel to produce an inorganic monolithic nanostructured metal-oxide aerogels or xerogels aerogel or an inorganic monolithic nanostructured metal-oxide xerogel.

10. (Currently amended) The sol-gel process of ~~Claim~~ claim 9, wherein the step of drying is carried out by one of supercritical extraction to produce and said inorganic monolithic metal-oxide aerogel or by evaporation to produce and said inorganic monolithic metal-oxide xerogel.

11. (Currently amended) The sol-gel process of ~~Claim~~ claim 9, additionally including washing ~~the thus formed~~ said inorganic gel prior to the step of drying said inorganic gel.

12. (Currently amended) The sol-gel process of ~~Claim~~ claim 9, additionally including aging ~~the thus formed~~ said inorganic gel prior to the step of drying, wherein the step of aging is for increasing strength of the said inorganic gel and enabling easier drying of said inorganic gel.

13. (Currently amended) The sol-gel process of ~~Claim~~ claim 9, additionally including the step of formation of forming metal-oxide particles from the thus formed monolithic metal-oxide materials said inorganic monolithic nanostructured metal-oxide aerogel or said inorganic monolithic nanostructured metal-oxide xerogel.

14. (Currently amended) The sol-gel process of ~~Claim 9~~, additionally including providing the dissolved metal salt claim 9, wherein said salt is selected from the group of inorganic salts consisting of  $\text{Fe}^{3+}$ ,  $\text{Cr}^{3+}$ ,  $\text{Al}^{3+}$ ,  $\text{Ga}^{3+}$ ,  $\text{In}^{3+}$ ,  $\text{Hf}^{4+}$ ,  $\text{Sn}^{4+}$ ,  $\text{Zr}^{4+}$ ,  $\text{Nb}^{5+}$ ,  $\text{W}^{6+}$ ,  $\text{Pr}^{3+}$ ,  $\text{Er}^{3+}$ ,  $\text{Nd}^{3+}$ ,  $\text{U}^{3+}$ , and  $\text{Y}^{3+}$ .

15. (Currently amended) The sol-gel process of ~~Claim 9~~, wherein the ~~metal-oxide monolith~~ claim 9, wherein said inorganic monolithic nanostructured metal-oxide aerogel and said inorganic monolithic nanostructured metal-oxide xerogel contains materials selected from the group consisting of  $\text{Fe}_x\text{O}_y$ ,  $\text{Cr}_2\text{O}_3$ , and  $\text{Al}_3\text{O}_3$   $\text{Al}_2\text{O}_3$ .

16. (Currently amended) The sol-gel process of ~~Claim~~ claim 9, wherein the said metal salt is selected from the group consisting of  $(\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}, \text{FeCl}_3 \cdot 6\text{H}_2\text{O}, \text{and } \text{FeCl}_3 \cdot \text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}, \text{FeCl}_3 \cdot 6\text{H}_2\text{O}, \text{and } \text{FeCl}_3$ , and wherein the gel formation is composed of  $\text{Fe}_x\text{O}_y$ .

17. (Currently amended) The sol-gel process of ~~Claim 9~~, wherein the claim 9, wherein said proton scavenger contains oxacyclo-alkane.

**Claims 18-20 (canceled)**